

---

# Contents

---

List of Contributors . . . . .	ix
Series Preface . . . . .	xi
Preface . . . . .	xiii
<b>1 Environmental Colloids and Particles: Current Knowledge and Future Developments . . . . .</b>	<b>1</b>
<i>Jamie R. Lead and Kevin J. Wilkinson . . . . .</i>	
<b>2 Colloidal Properties of Submicron Particles in Natural Waters . . . . .</b>	<b>17</b>
<i>Montserrat Filella . . . . .</i>	
<b>3 Colloid–Trace Element Interactions in Aquatic Systems . . . . .</b>	<b>95</b>
<i>Frederic J. Doucet, Jamie R. Lead and Peter H. Santschi . . . . .</i>	
<b>4 Ultrafiltration and its Applications to Sampling and Characterisation of Aquatic Colloids . . . . .</b>	<b>159</b>
<i>Laodong Guo and Peter H. Santschi . . . . .</i>	
<b>5 Characterisation of Aquatic Colloids and Macromolecules by Field-flow Fractionation . . . . .</b>	<b>223</b>
<i>Martin Hassellöv, Frank von der Kammer and Ronald Beckett . . . . .</i>	
<b>6 Modern Electrophoretic Techniques for the Characterisation of Natural Organic Matter . . . . .</b>	<b>277</b>
<i>Philippe Schmitt-Kopplin and Jens Junkers . . . . .</i>	
<b>7 Electrophoresis of Soft Colloids: Basic Principles and Applications . . . . .</b>	<b>315</b>
<i>Jérôme F. L. Duval . . . . .</i>	
<b>8 Strategies and Advances in the Characterisation of Environmental Colloids by Electron Microscopy . . . . .</b>	<b>345</b>
<i>Denis Mavrocordatos, Didier Perret and Gary G. Leppard . . . . .</i>	
<b>9 Force Microscopy and Force Measurements of Environmental Colloids . . . . .</b>	<b>405</b>
<i>Eric Balnois, Georg Papastavrou, and Kevin J. Wilkinson . . . . .</i>	
<b>10 Laser Scanning Microscopy for Microbial Floes and Particles . . . . .</b>	<b>469</b>
<i>John R. Lawrence and Thomas R. Neu . . . . .</i>	
<b>11 Study of Environmental Systems by Means of Fluorescence Correlation Spectroscopy . . . . .</b>	<b>507</b>
<i>Nicolas Fatin-Rouge and Jacques Buffle . . . . .</i>	
<b>12 Laser-induced Breakdown Detection . . . . .</b>	<b>555</b>
<i>Jae-il Kim and Clemens Walther . . . . .</i>	
<b>13 Probing Environmental Colloids and Particles with X-rays . . . . .</b>	<b>613</b>
<i>Jean-François Gaillard . . . . .</i>	
Index . . . . .	667

